

## CLAIMS

We claim:

- 5           1.       An isolated nucleic acid molecule encoding an amino acid sequence as set forth in SEQ ID NO: 14.
2.       The isolated nucleic acid molecule according to claim 1, wherein the nucleic acid molecule consists of a sequence as set forth in SEQ ID NO: 13.
- 10           3.       A recombinant vector comprising the nucleic acid molecule according to claim 1.
4.       A transgenic cell comprising the vector according to claim 3.
- 15           5.       An isolated nucleic acid molecule comprising a sequence as set forth in SEQ ID NO: 13.
6.       A recombinant vector comprising the nucleic acid molecule according to claim 5.
- 20           7.       A transgenic cell comprising the vector according to claim 6.
8.       A kit for detecting a human-*P. carinii* nucleic acid sequence comprising:  
25       a control nucleic acid sequence as set forth in SEQ ID NO: 13, and  
      at least one oligonucleotide primer comprising a sequence selected from the group consisting of SEQ ID NO: 17; SEQ ID NO: 18; SEQ ID NO: 19; SEQ ID NO: 20; SEQ ID NO: 21; SEQ ID NO: 22; SEQ ID NO: 23; and SEQ ID NO: 24.
- 30           9.       The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 17.

10. The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 18.

11. The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 19.

12. The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 21.

13. The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence of SEQ ID NO: 22.

14. The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 23.

15. The kit of claim 8, wherein one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 24.

16. A kit for detecting a human-*P. carinii* nucleic acid sequence comprising: a control nucleic acid sequence as set forth in SEQ ID NO: 13, and at least a pair of oligonucleotide primers each comprising at least 15 contiguous nucleotides of SEQ ID NO: 13.

17. The kit of claim 16, wherein at least one of the oligonucleotide primers comprises a sequence selected from the group consisting of SEQ ID NO: 17; SEQ ID NO: 19; and SEQ ID NO: 20.

18. The kit of claim 16, wherein at least one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 17.

19. The kit of claim 16, wherein at least one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 19.

20. The kit of claim 16, at least one of the oligonucleotide primers comprises the sequence as set forth in SEQ ID NO: 20.